

# Roundheaded Pine Beetle

Elongated, L-shaped galleries beneath bark

**Name and Description**—*Dendroctonus adjunctus* Blandford [Coleoptera: Curculionidae: Scolytinae]

The roundheaded pine beetle is a bark beetle that kills pine trees throughout its range. This insect's common name should not be confused with the roundheaded borer, which is the common name for the insect family Cerambycidae. The roundheaded pine beetle averages about 1/5 inch (5 mm) long and is a shiny, dark brown. By comparison, it is slightly larger than the western pine beetle (*D. brevicornis*) and slightly more slender than the mountain pine beetle (*D. ponderosae*).

Identification of the roundheaded pine beetle is most easily accomplished by recognizing its unique gallery pattern (fig.1). From the entrance site, the gallery will proceed horizontally (i.e., across the grain, either right or left) for a short distance of 1-2 inches (2.5-5 cm). The gallery will then wind vertically for an average distance of 12 inches (30 cm), forming an elongated L shape. Eggs are laid in alternating niches along the egg gallery. Once the larvae hatch out, they will mine vertically across the grain until they reach the third instar, then they will turn out into the outer bark where they will continue their development.

**Hosts**—Within Colorado, it primarily attacks ponderosa pine (*Pinus ponderosa*) but has also been collected from limber pine (*P. flexilis*).

**Life Cycle**—The beetle is primarily active in the southwestern United States, but its range extends south through central Mexico. Because southern Colorado represents the northern limits of its distribution, several aspects of its life cycle differ from the life cycles in other portions of its range. There is typically one generation per year, although in some locales the life cycle may take more than 1 year. Roundheaded pine beetles are unique in the United States in that they almost always overwinter in the egg stage. This means that they also attack quite late in the year, frequently in late October and November. However, this schedule is different in the southern reaches of the beetle's range, where there are typically two generations per year. Egg hatch occurs in mid to late March. The larvae feed in the phloem for three instars before turning out into the bark. Pupation occurs in midsummer, and the adults may remain within the host tree for 2-3 months before they emerge to attack new hosts.

**Damage**—Outbreaks of this beetle tend to be sporadic and short-lived, and they will infest trees of a wide range of size classes. They are most often active on ridge tops or other sites with dry, shallow soils. They are frequently found in "mixed broods" in trees that are simultaneously under attack by several species of bark beetles. See the Western Pine Beetles entry for further discussion of mixed broods.

**Management**—Because outbreaks are often short-lived, management is seldom warranted. In areas where management is desired, thinning stands, eliminating infested trees, and applying a preventive spray to non-infested trees can help protect trees.



Figure 1. Roundheaded pine beetle galleries. Note the narrower, more sinuous nature of this gallery compared to mountain pine beetle gallery to the right. Photo: USDA Forest Service Archive, USDA Forest Service, Bugwood.org.

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1. Furniss, R.L.; Carolin, V.M. 1977. Western forest insects. Misc. Publ. 1339. Washington, DC: U.S. Department of Agriculture, Forest Service. 654 p.